5B of Muka so as to have the process chambers 102 and the load-lock chambers 108 arranged in a Cartesian coordinate manner.

To support the rejection, the Examiner urges that the references teach the equivalence of Cartesian and polar coordinate arrangements in semiconductor manufacturing equipment.

Argument

1. The rejection should be withdrawn because neither of the references teaches that a multi-**chamber** system having a Cartesian coordinate arrangement is equivalent to a multi-**chamber** system having a polar coordinate arrangement.

The **primary reference** to Muka expressly **teaches that,** in semiconductor manufacturing equipment, **a multi-chamber system having a Cartesian arrangement is not equivalent to a multi-chamber system having a polar coordinate**.

Specifically, the Muka reference describes (col. 4, lines 7 – 25) how multiple **process and load-lock chambers can be arranged in a Cartesian coordinate manner as an improvement over cluster-type equipment having chambers arranged in a polar coordinate manner** (FIG. 1). Thus, the Muka reference refutes the Examiner's position that polar and Cartesian types of arrangements are art-recognized equivalents.

Concerning the embodiment of FIGS. 5A and 5B, Muka discloses that the process chambers 102 and load-lock chambers 108 can be provided on two levels in a polar coordinate arrangement **to improve throughput in such a polar coordinate arrangement** (col. 7, lines 25 – 47).

The Yanagita et al. reference relied on by the Examiner does not disclose a multi-chamber system of the type disclosed by Muka et al. and to which the present invention also relates. The apparatus taught by Yanagita et al. are for carrying out a process in only one chamber, i.e., a process of separating substrates (col. 1, line 61 – col. 2, line 15) in chamber 3010 (FIG. 2) or 6010 (FIG. 14).

That is, there is only one process chamber in each of the embodiments taught by Yanagita et al. Contrary to the statement made by the Examiner at the top of Page 3 of the Office Action, there is no transfer **chamber, no load lock chambers, and no plurality** of process chambers in the apparatus taught by Yanagita et al. Thus, it can not be said that Yanagita et al. teaches those of ordinary skill in the art anything as to how to arrange the chambers of multi-chamber semiconductor device manufacturing equipment, i.e. it can not be said that Yanagita et al. teaches those of ordinary skill in the art anything as to how to arrange the connected load lock chambers, transfer chamber and process chambers of Muka.

Basically, then Applicants respectfully submit that the rejection should be withdrawn because there is no suggestion from the references that would have motivated one of ordinary skill in the art to have modified the multi-chamber

equipment of FIG. 5 of Muka to have a Cartesian coordinate arrangement. First, Muka expressly discloses that Cartesian and polar arrangements are not considered equivalents in multi-chamber manufacturing equipment. Secondly, the Yanagita et al. apparatus is not of a multi-chamber type and hence, the Examiner can point to nothing in the Yanagita et al. reference that would have motivated one of ordinary skill in the art to have modified the multi-chamber apparatus of Muka. In fact, if one of ordinary skill in the art were desirous of obtaining semiconductor manufacturing equipment in which process, transfer and load-lock chambers had a Cartesian coordinate arrangement, that person could find such an arrangement in the Muka reference (embodiment of FIG. 2) and hence, there is no need to turn to any teachings of Yanagita et al.

2. The rejection should be withdrawn because the references do not suggest the modifying the robot of Muka in manner resulting in Applicants' claimed robot.

With all due respect, the Examiner has not explained how or why one of ordinary skill in the art would modify the robot 106 of the embodiment of FIG. 5 of Muka even assuming that the chambers were re-arranged in a Cartesian manner as proposed by the Examiner. Rather, the Examiner merely points to various features of robots in several other embodiments of the references, e.g., to certain features of the robot shown in FIG. 7 of Muka , and to certain features of the robot of FIG. 14 of Yanagita et al. Without offering any explanation as to how and why the robot 106 of

Muka should be modified, the Examiner has not met his burden in establishing a *prima facie* case of obviousness under 35 USC 103. The rejection should thus be withdrawn.

For these reasons, namely because (1) the references provide no suggestion that would have motivated one of ordinary skill in the art to have modified the embodiment of FIGS. 5A and 5B of Muka so as to have a Cartesian arrangement, and (2) even if the embodiment of FIGS. 5A and 5B of Muka were modified so as to have a Cartesian arrangement the resulting modification would still have a robot different from that of claim 13, it is seen that the references do not render Applicants' claim 13 obvious under 35 US 103. Accordingly, early reconsideration and allowance of the claims are respectfully requested.

Respectfully submitted,

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